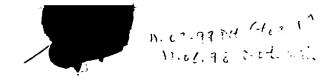
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CLAIMS

- 25. A process of using an enterobacterium OmpA protein, or a fragment thereof, for preparing a composition intended for specific targeting of a biologically active substance, which is associated with it, to antigen-presenting cells, wherein said enterobacterium OmpA protein, or a fragment thereof, is internalized into the antigen-presenting cells.
- 26. The process of claim 25, wherein said enterobacterium OmpA protein, or a fragment thereof, binds specifically to antigen-presenting cells.
- 27. The process of claim 25, wherein said antigenpresenting cells are chosen from dendritic cells, monocytes and B lymphocytes.
- 28. The process of claim 27, wherein said antigenpresenting cells are dendritic cells.
- 29. The process of claim 25, wherein said enterobacterium OmpA protein, or a fragment thereof, is obtained from a culture of said enterobacterium, using an extraction process.
- 30. The process of claim 25, wherein said enterobacterium OmpA protein, or a fragment thereof, is obtained by a recombinant process.
- 31. The process of claim 25, wherein said enterobacterium is Klebsiella pneumoniae.
- 32. The process of claim 31; wherein the amino acid sequence of said OmpA protein, or a fragment thereof, comprises:
- a) the amino acid sequence having sequence SEQ ID No 2;
- b) the amino acid sequence of a sequence having at least 80% homology with the sequence SEQ ID No 2; or
- c) the amino acid sequence of a fragment, of at least 5 amino acids, of a sequence as defined in a) or b).





- 33. The process of claim 25, wherein said biologically active substance is chosen from peptides, lipopeptides, polysaccharides, oligosaccharides, nucleic acids, lipids and chemical substances.
- 34. The process of claim 33, wherein said biologically active substance is coupled by covalent attachment with said OmpA protein, or a fragment thereof.
- 35. The process of claim 34, wherein the coupling by covalent attachment is chemical coupling.
- 36. The process of claim 35, wherein one or more attachment elements are introduced into said OmpA protein, or a fragment thereof, and/or into said biologically active substance, in order to facilitate the chemical coupling.
- 37. The process of claim 36, wherein said attachment element introduced is an amino acid.
- 38. The process of claim 34, wherein said biologically active substance coupled by covalent attachment with said OmpA protein, or a fragment thereof, is a recombinant chimeric protein resulting from the expression of a nucleic acid construct encoding said biologically active substance and said OmpA protein, or a fragment thereof.
- 39. The process of claim 38, wherein said biologically active substance is an antigen or a hapten.
- 40. A method for modifying the immune response to an antigen or a hapten with a composition intended for specific targeting of a biologically active substance, which is associated with it, to antigen-presenting cells, wherein an enterobacterium OmpA protein, or a fragment thereof, is internalized into the antigen-presenting cells.
- 41. The method of claim 40 for improving the immune response to an antigen or a hapten.
- 42. The method of claim 40 for preventing or treating a disease.

- 43. The method of claim 42, for preventing or treating a disease with an active substance, the effectiveness of which is modified by and/or linked to the internalization thereof by dendritic cells.
- The method of claim 43, for preventing or treating cancers, preferably cancers associated with a tumor antigen, autoimmune diseases, allergies, graft rejections, cardiovascular diseases, diseases of the central nervous system, inflammatory diseases, infectious diseases ordiseases linked to immunodeficiency.
- 45. The method of claim 44, for preventing or treating an infectious disease or a cancer associated with a tumor antigen.
- 46. A pharmaceutical composition effective in the method of claim 42 which comprises an adjuvant of immunity.
- 47. The pharmaceutical composition of claim 46 which is vehicled in a form which makes it possible to improve the stability and/or immunogenicity thereof.
- 48. The pharmaceutical composition of claim 46 which is vehicled in the form of a liposome, of a viral vector, or of a transformed host cell capable of expressing a recombinant chimeric protein resulting from the expression of a nucleic acid construct encoding said biologically active substance and said OmpA protein, or a fragment thereof.

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